

## **REMARKS**

In an Office Action mailed July 22, 2009, claims 1 and 3-16 were rejected. Herein, claims 1, 3, 6, 12, 15, and 16 have been amended, and new claims 17-20 have been added. No new matter has been added. Additionally, claims 5 and 13 have been cancelled without prejudice or disclaimer to the subject matter therein. Applicants respectfully request further examination and reconsideration of the present application.

Claims 1, 5, and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (U.S. Patent Application No. 2003/0072255, hereafter “Ma”) in view of Applicants’ Admitted Prior Art (hereafter “AAPA”), and in further view of Andrews et al. (U.S. Patent No. 6,317,098, hereafter “Andrews”). Claims 1 and 15 are pending, and claim 5 has been cancelled. Applicants respectfully request reconsideration of the rejection based on the remarks below.

Claim 1 recites, in part, that a plurality of different transmission local oscillators are used for a plurality of transmission antennas, respectively. Applicants respectfully submit that this feature of claim 1 is not disclosed or suggested by any combination of Ma, AAPA, and Andrews.

Applicants respectfully submit that Ma and Andrews fail to disclose or suggest that a plurality of different transmission local oscillators are used for a plurality of transmission antennas, respectively. Therefore, AAPA must disclose or suggest this feature in order for any combination of Ma, AAPA, and Andrews to render claim 1 obvious.

Applicants respectfully submit that AAPA fails to disclose or suggest that a plurality of different transmission local oscillators are used for a plurality of transmission antennas, respectively, based on the following remarks.

Applicants note that AAPA discloses a transmission apparatus having a preamble generating section 901, data modulating sections 902 903, multiplexors 904 905, orthogonal modulation sections 906 907, a **single** local oscillator 908, and transmission antennas TX1 TX2

([0005] and Fig.18). In other words, the **single** local oscillator 908 is commonly used by both of the transfer paths.

Contrast the above structure described in AAPA to that of claim 1 in which a **plurality of different** transmission local oscillators are used for a plurality of transmission antennas, respectively. In other words, a **different local oscillator** is used for each transfer path (*See* items 109a and 109b in Fig. 5).

In view of the foregoing, Applicants respectfully submit that AAPA does not disclose or suggest that a plurality of different transmission local oscillators are used for a plurality of transmission antennas, respectively.

In view of the foregoing, Applicants respectfully submit that claim 1 is patentable over any combination of Ma, AAPA, and Andrews.

Regarding claim 15, Applicants note that claim 15 recites, in part, a plurality of different transmission local oscillators being provided for a plurality of transmission antennas, respectively. Therefore, Applicants respectfully submit that claim 15 is patentable over any combination of Ma, AAPA, and Andrews for reasons similar to those discussed above with respect to claim 1.

Claims 3 and 4 were rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Ma and Andrews, and in further view of Dubuc et al. (U.S. Patent Application No. 2007/0263667, hereafter “Dubuc”). Applicants respectfully submit that Dubuc fails to provide disclosure that would obviate the above mentioned deficiencies of AAPA, Ma, and Andrews; therefore, claims 3 and 4 are patentable over any combination of AAPA, Ma, Andrews, and Dubuc based at least on their dependency from claim 1.

Claims 6-8, 10, 11, 13, and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Ma. Claims 6-8, 10, 11, and 16 are pending, and claim 13

has been cancelled. Applicants respectfully request reconsideration of the rejection based on the remarks below.

Claim 6 recites, in part, that a plurality of different reception local oscillators are used for a plurality of reception antennas, respectively. Applicants respectfully submit that this feature of claim 6 is not disclosed or suggested by any combination of AAPA and Ma.

Applicants respectfully submit that Ma fails to disclose or suggest that a plurality of different reception local oscillators are used for a plurality of reception antennas, respectively. Therefore, AAPA must disclose or suggest this feature in order for any combination of AAPA and Ma to render claim 6 obvious.

Applicants respectfully submit that AAPA fails to disclose or suggest that a plurality of different reception local oscillators are used for a plurality of reception antennas, respectively, based on the following remarks.

Applicants note that AAPA discloses a reception apparatus having reception antennas RX1 RX2, a **single** local oscillator 909, orthogonal demodulation sections 910 911, frequency error estimating sections 912 913, an averaging section 914, frequency correcting sections 915 916, an inverse propagation function estimating section 917, and data demodulating sections 918 919 ([0005]). In other words, the **single** local oscillator 909 is commonly used by both of the reception paths.

Contrast the above structure described in AAPA to the of claim 1 in which a **plurality of different** reception local oscillators are used for a plurality of reception antennas, respectively. In other words, a **different local oscillator** is used for each reception path.

In view of the foregoing, Applicants respectfully submit that AAPA does not disclose or suggest that a plurality of different reception local oscillators are used for a plurality of reception antennas, respectively.

Therefore, Applicants respectfully submit that claim 6 is patentable over any combination of AAPA and Ma.

Further, claims 7, 8, 10, and 11 are patentable over any combination of AAPA and Ma based at least on their dependency from claim 6.

Regarding claim 16, Applicants note that claim 16 recites, in part, that a plurality of different reception local oscillators being provided for a plurality of reception antennas, respectively. Therefore, Applicants respectfully submit that claim 16 is patentable over any combination of AAPA and Ma for reasons similar to those discussed above with respect to claim 6.

Claim 9 was rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Ma, and in further view of Funamoto et al. (U.S. Patent Application Publication No. 2005/0147186, hereafter “Funamoto”). Applicants respectfully submit that Funamoto fails to provide disclosure that would obviate the above mentioned deficiencies of AAPA and Ma; therefore, claim 9 is patentable over any combination of AAPA, Ma, and Funamoto based at least on its dependency from claim 6.

Claims 12 and 14 were rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Ma, and in further view of Wilson et al. (U.S. Patent No. 7,436,757, hereafter “Wilson”). Applicants respectfully submit that Wilson fails to provide disclosure that would obviate the above mentioned deficiencies of AAPA and Ma; therefore, claims 12 and 14 are patentable over any combination of AAPA, Ma, and Wilson based at least on their dependency from claim 6.

Regarding new claim 17, Applicants note that new claim 17 recites, in part, that a plurality of different transmission local oscillators are used for a plurality of transmission antennas, respectively, to simultaneously transmit radio signals to a plurality of reception antennas for which a single reception local oscillator is used in common. Therefore, Applicants

respectfully submit that new claim 17 is allowable over the prior art of record based for reasons similar to those discussed above with respect to claim 1.

Regarding new claim 18, Applicants note that new claim 18 recites, in part, that a single transmission local oscillator common to a plurality of transmission antennas is used to simultaneously transmit radio signals to a plurality of reception antennas for which a plurality of different reception local oscillators are used, respectively. Therefore, Applicants respectfully submit that new claim 18 is allowable over the prior art of record based for reasons similar to those discussed above with respect to claim 6.

Regarding new claim 19, Applicants note that new claim 19 recites, in part, that a single reception local oscillator common to a plurality of reception antennas is used to demodulate data sequences that are transmitted, from a plurality of transmission antennas, by using a plurality of different transmission local oscillators for the plurality of transmission antennas, respectively. Therefore, Applicants respectfully submit that new claim 19 is allowable over the prior art of record for reasons similar to those discussed above with respect to claim 1.

Regarding new claim 20, Applicants note that new claim 20 recites, in part, that a plurality of different reception local oscillators are used for a plurality of reception antennas, respectively, to demodulate data sequences that are transmitted from a plurality of transmission antennas for which a single transmission local oscillator is used in common. Therefore, Applicants respectfully submit that new claim 20 is allowable over the prior art of record for reasons similar to those discussed above with respect to claim 6.

Therefore, for at least the reasons presented above, Applicants respectfully submit that independent claims 1, 6, and 15-20, as well as the claims depending therefrom, are clearly allowable over the prior art of record.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the present application is clearly in condition for allowance. An early notice thereof is earnestly solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, Applicants respectfully request that the Examiner contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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November 3, 2009